Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral imbedded component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material formed by coalescence of latex-derived polymer particles, and wherein the biological material is metabolically active or becomes metabolically active upon hydration.

2. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material formed by coalescence of latex-derived polymer particles, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein the biostructure comprises at least one layer comprising a porous latex-derived material and at least one layer comprising a nonporous latex-derived material.

3. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material formed by coalescence of latex-derived polymer particles, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein the nonporous material defines at least one channel or at least one well.

4. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a

portion of the biostructure comprises a nonporous latex-derived material formed by coalescence of latex-derived polymer particles, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein the biostructure comprises no greater than about 75% by volume biological material.

5. **(Original)** The composite device of claim 4 wherein the biostructure comprises no greater than about 50% by volume biological material.

6. **(Previously presented)** The composite of claim 1 wherein the biological material comprises a prokaryote, a eukaryote, an archean organism, or a combination thereof.

7. **(Original)** The composite of claim 1 wherein the biological material comprises a mammalian cell, a blood cell, an avian cell, a plant cell, an insect cell, a bacteriophage, a spore, a virus, or a combination thereof.

8. **(Original)** The composite of claim 1 wherein the biological material comprises a recombinant bacterial, yeast, or fungal cell.

9. **(Previously presented)** The composite device of claim 8 wherein the recombinant cell is desiccation tolerant.

10. **(Original)** The composite device of claim 1 wherein the biostructure further comprises at least one additive selected from the group of a salt, a pigment, an adsorbent, a liquid crystal, a porosity modifier, a chelating agent, a nutrient, a surfactant, a dye, a photoreactive compound, an antibiotic, an antimicrobial, a bacteriostatic compound, an enzyme, an osmoprotectant, a biopolymer, a metal, a chemical catalyst, and a combination thereof.

11. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material formed by coalescence of latex-derived polymer particles, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein the biostructure further comprises a transmitter incorporated therein.

12. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material formed by coalescence of latex-derived polymer particles, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein the biostructure further comprises a detector incorporated therein.

13. **(Original)** The composite device of claim 12 wherein the detector senses a response emitted from the biological material when in contact with an analyte.

14. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material formed by coalescence of latex-derived polymer particles, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein the biostructure comprises a cross-linked latex-derived polymer.

15. **(Previously presented)** The composite device of claim 1 wherein the biostructure is non-hydrated and the biological material becomes metabolically active upon hydration.

16. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material formed by coalescence of latex-derived polymer particles, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein the biostructure further comprises a porous latex-derived material.

17. **(Original)** The composite device of claim 16 wherein the porous latex-derived material comprises a mixture of latices.

18. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material formed by coalescence of latex-derived polymer particles, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein the composite device further comprises a substrate on which the biostructure is disposed.

19. **(Original)** The composite device of claim 18 wherein the substrate comprises a membrane, a filament, or a wire.

20. **(Original)** The composite device of claim 18 wherein the substrate comprises a metal or a polymeric material.

21. **(Original)** The composite device of claim 18 wherein the substrate is an electronic device.

22. **(Currently amended)** A composite biological device comprising a biostructure comprising at least one biological material as an integral component thereof, wherein at least a

portion of the biostructure comprises a nonporous latex-derived material formed by coalescence of latex-derived polymer particles, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and wherein the biostructure comprises wires or electrodes.

23. **(Original)** The composite device of claim 1 wherein the biostructure is no greater than about 500 microns thick.

24. **(Original)** The composite device of claim 1 wherein the entire device is no greater than about 500 microns thick.

25-47. **(Canceled)**

48. **(Original)** A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 1, wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

49-99. **(Canceled)**

100. **(Previously presented)** A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 2, wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

101. **(Previously presented)** A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 3, wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

102. **(Previously presented)** A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 4, wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

103. **(Previously presented)** A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 11 wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

104. **(Previously presented)** A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 12 wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

105. **(Previously presented)** A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 14 wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

106. **(Previously presented)** A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 16 wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

107. **(Previously presented)** A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 18 wh rein, upon contact

with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

108. **(Previously presented)** A method of determining the presence of an analyte in a sample, the method comprises contacting the sample with the device of claim 22 wherein, upon contact with the analyte, the biological material produces a response and emits a signal; and detecting the signal.

109. **(New)** A composite biological device comprising a biostructure comprising at least one biological material as an integral imbedded component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material formed by coalescence of latex-derived polymer particles, and wherein the biological material is metabolically active or becomes metabolically active upon hydration, and further wherein the biostructure comprises a porous sealant layer that does not include biological material.

110. **(New)** A composite biological device comprising a biostructure comprising at least one biological material as an integral, imbedded, permanently trapped, component thereof, wherein at least a portion of the biostructure comprises a nonporous latex-derived material formed by coalescence of latex-derived polymer particles, and wherein the biological material is metabolically active or becomes metabolically active upon hydration.